JUPITER PRIME

Consulting • Training • Advisory

جوبيتر برايم للاستشارات والتدريب

COURSE BROCHURE

Advanced Power Utility Levelised Cost Modelling Training Course

28 November – 9 December 2027
Muscat

Advanced Power Utility Levelised Cost Modelling Training Course

Ref: 2521_95729 **Date:** 28 November – 9 December 2027 **Location:** Muscat **Fees:** 11700 GBP

Power Utility Levelised Cost Modelling is a 2-week advanced training course for utility finance analysts, asset managers and tariff engineers, who build a levelised cost model and investment case pack for generation, network and retail assets. Falling technology costs, volatile fuel prices and tighter scrutiny of allowed revenue make defensible unit-cost evidence a board-level need. Jupiter Prime Training sets Power Utility Levelised Cost Modelling within this shifting investment picture.

Why Power Utility Levelised Cost Modelling Matters Now

Three forces shape it: solar, wind and storage with different cost profiles, higher financing costs that lift the weight of capital, and regulators and investors who expect transparent cost build-ups. Good modelling compares options on equal terms and defends tariffs; poor modelling locks in expensive plant or under-recovers network spending. The course rests on discounted cash flow practice, levelised cost of energy LCOE analysis and regulated asset base logic.

Who Gains Most from Power Utility Levelised Cost Modelling

- Finance specialists preparing appraisals for plant and network
- Asset owners weighing refurbishment against replacement
- Tariff specialists turning allowed costs into charges
- Planners ranking generation and storage options
- Commercial leads negotiating power purchase prices

Utility finance and planning units gain most when analysts and asset owners attend together.

Power Utility Levelised Cost Modelling Capabilities

Participants move from single-number estimates to models exposing every driver behind a unit cost.

- Build a levelised cost model with capital, fuel and operating streams — investment committees
- Calculate a weighted average cost of capital suited to each asset class — treasury and lenders
- Test sensitivities on fuel, capacity factor and discount rate — risk owners
- Compare generation, storage and network options on a common unit-cost basis — capacity planners
- Translate network and retail costs into tariff building blocks — pricing and regulatory teams
- Communicate model results and limits in a concise investment case — executive sponsors

Key Power Utility Levelised Cost Modelling Terms

- Levelised cost of energy — the constant unit price recovering all discounted lifetime costs of an asset.
- Capacity factor — actual output divided by maximum possible output at rated power.
- Weighted average cost of capital — blended return required by lenders and shareholders, used as discount rate.
- Regulated asset base — network investment value on which a regulated utility earns its allowed return.
- Overnight capital cost — build cost excluding financing during construction.
- System integration cost — extra grid and balancing spending caused by variable generation.

Power Utility Levelised Cost Modelling Day by Day

Day 1: Cost Forces in Modern Utilities

- Generation, Network and Retail Costs — Value Sources
- Technology Cost Curves — New Plant Timing
- Fuel Price Exposure — Hedged Versus Fixed Options
- Regulated Versus Competitive Assets — Return Logic
- Board Cost Expectations — Evidence Needed

Day 2: Discounted Cash Flow Foundations

- Real Versus Nominal Rates — Inflation Consistency
- Long-Lived Asset Timelines — Model Horizon
- Net Present Value Tests — Accept or Reject
- Depreciation and Tax Effects — After-Tax Accuracy
- Model Layout Discipline — Auditable Workbooks

Day 3: Cost of Capital for Energy Assets

- Discount Rate Build-Up — Asset-Specific Returns
- Gearing and Debt Terms — Unit Cost Effect
- Technology Risk Premiums — Fair Project Comparison
- Construction Financing Charges — All-In Capital Cost
- Rate Sensitivity Bands — Funding Strategy

Day 4: Capital Cost Drivers

- Overnight Cost Estimates — Early Budget Confidence
- Learning Rates and Scale — Future Cost Assumptions
- Contingency and Owner's Costs — Budget Envelopes
- Refurbishment Profiles — Mid-Life Reinvestment Timing
- Decommissioning Provisions — End-of-Life Liabilities

Day 5: Operating and Fuel Cost Drivers

- Fixed and Variable Upkeep — Dispatch Economics
- Heat Rate Analysis — Thermal Unit Competitiveness
- Degradation and Availability — Lifetime Energy Yield
- Carbon Cost Scenarios — Fossil Plant Exposure
- Network Losses — Cost per Unit Delivered

Day 6: Building the Levelised Cost Model

- LCOE Formula Construction — Technology Ranking
- Levelised Cost of Storage — Battery or Peaker
- Capacity Factor Inputs — Dispatch Realism
- Integration Cost Adders — Variable Generation Full Cost
- Model Reconciliation Checks — Trusted Results

Day 7: Network and Retail Cost Build-Up

- Asset Base Roll-Forward — Allowed Network Return
- Voltage-Level Cost Allocation — Fair Customer Charges
- Retail Cost-to-Serve — Supply Margin Choices
- Tariff Building Blocks — Energy and Capacity Charges
- Revenue Recovery Tests — Under-Recovery Risk

Day 8: Risk, Sensitivity and Scenarios

- Tornado Charts — Strongest Cost Drivers
- Fuel and Demand Scenarios — Robust Option Choice
- Monte Carlo Simulation — Unit Cost Ranges
- Switching Values — Decision Thresholds
- Deferral and Staging Options — Flexibility Value

Day 9: Investment Cases and Decisions

- Least-Cost Expansion Comparison — Capacity Sequencing
- Purchase Price Benchmarking — Contract Positions
- Refurbish-or-Replace Appraisal — Ageing Asset Strategy
- Customer Bill Impact — Affordability Limits
- Committee Narrative — Approval-Ready Evidence

Day 10: Practising the Levelised Cost Model and Investment Case Pack

- Applying Discount Rate Choices — Selected Asset
- Applying Cost Drivers — Calibrated Inputs
- Applying Scenario Tests — Stress-Tested Unit Costs
- Peer Challenge of Model Logic — Assumption Robustness
- Completing the Levelised Cost Model and Investment Case Pack — Board Submission

Applying Power Utility Levelised Cost Modelling After the Course

- Rebuild one pending appraisal with a levelised cost and sensitivity layer
- Lead a review of discount rate and capacity factor assumptions

Power Utility Levelised Cost Modelling Questions FAQ

What is power utility levelised cost modelling and why does it matter now?

It expresses every lifetime cost of a utility asset as one comparable unit price. It matters now because new technologies and higher financing costs demand transparent cost evidence.

Which roles gain most from power utility levelised cost modelling?

Finance analysts, asset managers, tariff engineers and capacity planners gain most, especially if you prepare appraisals or turn allowed costs into charges.

How does power utility levelised cost modelling differ from general financial modelling?

It focuses on unit costs of electricity assets rather than company forecasts, using capacity factors, heat rates and integration costs a general course leaves aside.

What do you bring back from power utility levelised cost modelling?

You bring back a tested cost model for a chosen asset and an investment case structure colleagues can reuse.

Power Utility Levelised Cost Modelling: The Way Forward

The levelised cost model and investment case pack first informs which capacity or network option goes forward for approval. Analysts use it before investment committees. After its first use, revisit the discount rate and capacity factor inputs, the two drivers that most often reorder the options.